UNION CARBIDE CORPORATION,

Plaintiff,

v.

TRAVER INVESTMENTS, INC., & E. I. DuPont de Nemours & Company,

Defendants.[1]

Civ. A. P-2445.

United States District Court
S. D. Illinois, N. D.
Jan. 28, 1965.

MERCER, Chief Judge,

This suit is prosecuted under 35 U.S.C. § 146 to try the issue of priority of invention between competing patent applications.

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[1] In this suit, which was transferred to this Court by the United States District Court for the District of Columbia, Howard Plastics, Inc., filed the complaint naming Traver Investments, Inc., and Union Carbide Corporation as defendants. Union Carbide filed a counterclaim against Howard and a cross-claim against Traver. Thereafter, DuPont intervened in the suit and is an additional defendant. Shortly prior to trial of the cause, Howard's complaint was dismissed upon its own motion leaving only the cross-claim by Carbide against Traver as the pleading in issue. For convenience, the parties have been realistically realigned to treat Carbide as the plaintiff and Traver and DuPont as defendants.

THE INVENTION

Prior to 1949 polyethylene film had acquired a prominent place in the market as a packaging material. A major fault of the raw film was that the surface was not ink retentive. Printed matter could be placed thereon, but the ink flaked off and readily washed away when such film was exposed to moisture. The inventive concept involved here is a process to remedy that fault.

The inventive concept in issue is a process for exposing untreated film to high voltage corona discharge of sufficient intensity and duration to achieve the desired result. Specifically, the corona discharge is created by applying voltage of an approximate minimum of 10,000 volts to an Oxy-Dry tube or other conductor element which is spaced approximately one-eighth of an inch above a suitable ground plate. As the voltage approaches 10,000 volts, a corona field is created between the conductor and ground plate. When untreated polyethylene is exposed to that corona by being placed within or passed through the corona field, treatment of the film's surface is achieved which renders the film readily retentive of inks placed thereon.

The Competing Applications

Plaintiff, Union Carbide, is the assignee of patent application No. 217,144, filed March 23, 1951, by George A. Adams and Sydney J. Wakefield.

Defendant, DuPont, is the present owner, as successor to defendant, Traver, of patent application No. 345,015, filed March 27, 1953, by George W. Traver.

For convenience, those applications are hereinafter referred to as the Adams and Traver applications, respectively.

In 1954 the Patent Office determined that an interference existed between the Adams Application, the Traver application and an application filed by the predecessors in title of Howard Plastics, Inc. After a hearing before the Patent Office Board of Patent Interferences, that Board ruled, on July 25, 1960, that Traver was the prior inventor of the process and awarded priority of invention to the Traver application. Following the interference, and as a result of the interference, Patent No. 3,018,189 was issued to Traver. That patent is now owned by the defendant, DuPont.

Since Howard abandoned its claim of priority prior to the trial of this case,[2] the issue remains only with respect to the competing claims of priority as between the Adams and the Traver applications.

The Issue and Applicable Law

The primary issue raised in this proceeding is the question of priority of invention as between those parties to the interference, namely, Traver on the one hand, and Adams and Wakefield on the other. No other issue can arise in this litigation until and unless it be determined that plaintiff is entitled to prevail. Howard Plastics, Inc. v. Traver Investments, Inc., et al, S.D.Ill., 205 F. Supp. 522. No issue can arise as to the sufficiency of the Traver application or as to the validity of the Traver patent. The scope of the proceeding is limited by the provisions of the statute. Ibid.

This suit is a trial de novo of the interference issue, not an appeal from the Board's decision. Cf., Globe-Union, Inc. v. Chicago Telephone Supply Co., 7. Cir., 103 F.2d 722, 724. To prevail, plaintiff must carry a heavy burden of proof. In Morgan v. Daniels, 153 U.S. 120, 124, 125, 14 S.Ct.

[2] See footnote 1.

772, 773, 38 L.Ed. 657, the Court said that a Patent Office decision upon the question of priority must be accepted as controlling upon the question of fact of priority in any subsequent suit between the parties to the interference "unless the contrary is established by testimony which in character and amount carries thorough conviction." That principle has been restated and followed in enumerable cases subsequent to Morgan. E.g., Globe-Union, Inc. v. Chicago Telephone Supply Co., 7 Cir., 103 F.2d 722, 727; General Motors Corp. v. Bendix Aviation Corp., N.D.Ind., 123 F.Supp. 506, 515-516; United States v. Szuecs, 100 U.S.App. D.C. 24, 240 F.2d 886; Esso Standard Oil Co. v. Sun Oil Co., 97 U.S.App.D.C. 154, 229 F.2d 37, 40.

Upon an interference, the question is which of the competing applicants was the first to conceive and reduce to practice the invention described. The Board resolved that issue in defendants' favor. Its decision should stand unless plaintiff has proved to the point of thorough conviction that the Board made a mistake.

The Evidence and Facts

Perhaps the most persuasive evidence in plaintiff's favor is the patent office history of the Traver application. On October 26, 1950, Traver filed his patent application No. 192,313 describing a method for treatment of polyethylene by electrical discharge. The Interference Examiner found, and properly so, that that application did not describe the corona discharge process. That application was followed by a second application filed by Traver on March 18, 1952, as a continuation in part of his 1950 application. Slightly more than one year later, Traver filed his application which was the subject of the interference and involved in this suit.

As I have previously noted, the Adams application for the corona discharge process was filed March 23, 1951, a

date which preceded the third Traver application by slightly more than two years.

At first blush one wonders why the corona discharge principle was not a part of the first Traver application if, in fact, the process had been conceived and reduced to practice by him. Though that question remains unanswered, I think that plaintiff has failed to prove to a thorough conviction that the Board was wrong.

The testimonial, deposition and documentary evidence before the court is voluminous. The process was demonstrated by experts before the court. Of course, the evidence contains contradictions which I deem it unnecessary to comment upon or resolve. The balance of this section of the opinion will set forth a summary of evidentiary facts which convinces me that defendants are entitled to judgment in their favor.

Since it is necessary to refer to several entities and individuals through whom the interests of the parties are derived, all such are here identified as follows.

At all times material to this suit, Adams and Wakefield were employed by Visking Corporation, (hereinafter Visking), which was the original owner of the Adams application. Visking merged with plaintiff, Carbide,[3] and was the source of plaintiff's ownership of that application.

At all times material to this suit, George W. Traver was an officer and principal stockholder of Traver Corporation to which the Traver application was assigned. Traver Corporation assigned the application to defendant, Traver Investments, Inc., which, in turn, assigned that application to defendant, DuPont. Except as the context otherwise requires, hereinafter "defendant" is employed as a refer-

[3] Visking Corporation is now a division of the Ethyl Corporation.

ence to DuPont and Traver Investment, "Traver" as a reference to George M. Traver and Traver Corp. as a reference to Traver Corporation.

In and prior to 1949, Visking was one of the large producers of polyethylene film. Traver Corp. was a manufacturer and printer of commercial packaging made from cellophane, polyethylene and similar materials. At times material to this suit, Visking supplied practically all of the polyethylene film used by Traver Corp. in its operations.

During that period of time, everyone connected with the polyethylene industry was seeking a method of treatment of the film to improve ink adhesion. Various conceptions of method were tried, including a flame treating method developed by M. F. Kritchever.

In the Spring of 1949, Kritchever submitted samples of polyethylene film, treated by his flame treating process, to employees of Traver Corp. Tests made by such employees revealed that ink adhesivity was improved upon such samples. Kritchever did not at that time, however, reveal his method of treatment.

Shortly thereafter, in May or early June, 1949, Traver conceived the idea of subjecting polyethylene film to an electrical charge as a treatment means. In its printing business, Traver Corp. employed Oxy-Dry tubes upon a number of printing machines to eliminate off-set in the printing operation. The evidence indicated that a corona discharge resulted from such use. Traver made a preliminary trial of his conception by attaching a sheet of polyethylene film to the cellophane web on a Meisel cellophane printer and inching the sheet past the several Oxy-Dry tubes installed upon the machine to eliminate off-set. That preliminary experiment convinced Traver that the discharge from the tubes did improve the quality of ink adhesivity to the film.

Traver then instructed two Traver Corp. employees, Frederick J. Pool and Arthur B. Groh, to conduct experiments with the use of electrical discharge as a means of treatment of polyethylene for ink retentiveness. The precise date when such instructions were given is not known, but the date was prior to June 6, 1949.

In June, 1949, Groh mounted a single Oxy-Dry tube above a metal plate on a table. By applying voltage to the tube from a 10,000 volt transformer, Groh found that polyethylene film placed between the tube and ground plate, and subjected to the electrical discharge of the tube, would retain ink.

Groh disclosed his findings to Pool, who experimented, during June and July, 1949, with a rigidly mounted multi-tube set-up. With that set-up, with each Oxy-Dry tube activated by a 10,000 volt transformer, Pool achieved successful treating of polyethylene.

It does appear that neither Groh nor Pool understood what was taking place in the treatment process. What they did discover was that an electrical charge of 10,000 volts or more applied to the tubes, while the tubes were spaced approximately ⅛ inch above the ground plate, with several seconds exposure of the film in the field between the ground plate and the tube achieved successful treatment. It seems doubtful upon the evidence adduced that they, or Traver, then recognized that the secret of success was the corona discharge from the tubes.

In the summer or fall of 1949, work was begun upon the development of a continuous-process, treatment machine, necessary for the commercial exploitation of the process. In December, 1949, one metal cyclinder of a Cameron slitter machine was equipped with a series of Oxy-Dry tubes, mounted transverse the cylinder and approximately ⅛ inch

above the surface thereof. Successful, continuous treatment of the film was achieved.

Digressing, it seems singular that the Traver Corp. employees kept no log or record of their experimentation with the process. That fact, coupled with the fact, to which allusion was previously made, that Traver's 1950 application described an unworkable method, tends to cast doubt upon the credibility, or memory, of the Traver Corp. employees above mentioned.

There is, however, corroborative evidence to dispel that doubt. First, there is in evidence correspondence between Pool and Traver relative to the experimentation and the results achieved. Secondly, and of substantial importance, the depositions of Herbert Harris and Elson B. Cahn were read into evidence.

In and prior to December, 1949, Cahn was the general sales manager for Visking and Harris was a Visking salesman who handled the Traver Corp. account. Harris testified that Paul Traver, a brother of Traver, had shown him the Cameron slitter machine and had made tests of material treated thereon for Harris' benefit just prior to Christmas of 1949. Harris testified that he saw the machine in operation several days later and saw further tests for ink adhesivity made upon the material treated. Harris reported the fact of the development of the machine and process to Cahn either in early January or no later than February of 1950. Cahn could not remember precisely to whom he had reported Harris' disclosure, but he was sure that he did report the information to the supervisory personnel of Visking.

When Cahn's deposition was taken, Visking was a subsidiary of plaintiff corporation and Cahn then described himself as an advisory employee of Carbide.

Traver Corp. began commercial production of treated polyethylene in the first quarter of 1950, and delivered an order of printed polyethylene poultry bags in March, 1950. Two other orders for poultry bags were received and processed by Traver Corp. in April and May, 1950.

In August, 1950, Pool disclosed the process and Cameron machine to Traver's patent attorney and the first Traver application was thereafter filed.

Construction of a second continuous treating machine was commenced at Traver Corp. in the fall of 1950, and completed in the summer of 1951. Commercial production by Traver Corp. continued thereafter upon the new machine and the subsequent continuation in-part patent applications were filed as previously related, on March 18, 1952, and March 29, 1953.

From that summary, I conclude that Traver did conceive and reduce to practice the corona discharge method of treatment in the latter part of 1949.

In February, 1950, Visking's production manager, M. E. Kennedy, and Adams met with Kritchever to discuss the latter's flame-treatment process. At that time Kennedy asked Adams if he thought an electrical shock treatment might make polyethylene ink retentive. In March, Kennedy assigned Adams and Wakefield to work upon that idea. Improved adhesivity was achieved by passing the film between an Oxy-Dry tube and a ground plate and between a metal plate electrode and metal ground. Visking tested a power-driven machine in April of 1950. A commercial machine was completed at Visking's Terre Haute, Indiana, plant in July of 1950, and commercial samples were sent to Visking customers in September. Commercial production was begun by Visking in January, 1951, preceding the Adams patent application by approximately two months.

I think it clear, therefore, that plaintiff has failed to adduce convincing proof that Adams and Wakefield were the prior inventors of the process and that the Board's decision was wrong. To the contrary, it appears that their first reduction to practice of the process on an experimental basis occurred in March, 1950, approximately three months after Traver had completed the Cameron slitter modification for commercial exploitation of the process.

The reality of the fact is, I think, conceded by the thrust of the brief filed by plaintiff which is aimed at certain contradictions and inconsistencies in the testimony and the fact that no Traver application mentioned corona discharge until an amendment was filed about November, 1954.

I think the argument merely reiterates what I said at the start of this factual summary that areas of doubt exist. The development of the process as described by Pool and Groh appears to have been a hit or miss proposition. The spacing between the conductor unit and ground is a critical factor, yet no measurements were ever taken as to the precise spacing. As Pool said, variously, the space was about 1/8 inch or we placed the tubes as close as we could to the drum of the slitter. It seems likewise clear that Pool and Groh did not grasp the reason for the success of the process, i.e., the part played by corona discharge. As Pool testified, as late as August of 1950, neither he nor Traver "knew what was taking place or why precisely." Further, "we knew that an Oxy-Dry tube under certain conditions would do the job. Why and what it did we didn't know."

Pool described those conditions as exposure of the film for several seconds to an electrical field produced by an

Oxy-Dry tube spaced about 1/8 inch above a ground to which the output of a 10,000 volt transformer was applied.[4]

If the witnesses are to be believed, Pool and Traver discovered the conditions for successful corona discharge treatment. They knew what they were doing and could and did reproduce and adapt that knowledge to commercial production. Having achieved a workable result, it was not any the less an invention if we assume they were without knowledge of the scientific principle of that success. They knew the how, and it is not necessary that they knew why it worked. Diamond Rubber Co. of New York v. Consolidated Rubber Tire Co., 220 U.S. 428, 435, 436-437, 31 S.Ct. 444, 55 L.Ed. 527; Electric Storage Battery Co. v. Shimadzu, 3 Cir., 123 F.2d 890, 897.

The evidence adduced falls far short of producing a thorough conviction that plaintiff should prevail. In my view of the matter, the evidence preponderates in favor of the decision reached by the Board of Interferences.

Plaintiff seeks to raise an issue of a prior use bar against the Traver patent. That issue relates to the validity

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[4] Some contradiction is found in the Pool testimony relative to the exact spacing used, with Pool saying at one point on cross-examination that treatment was achieved at 1/4 inch spacing and 10,000 volts. The testimony and demonstrations conducted in court show that corona discharge is necessary and that treatment of polyethylene in air cannot be achieved at 1/4 inch spacing between the ground and electrode and 10,000 volts.

Pool's direct testimony was that about 1/8 inch spacing was used. He described the physical manifestations of corona discharge as being present upon his successful experiments. The contradictions which exist within his testimony do not compel the conclusion that he is not to be believed or the conclusion, which plaintiff suggests, that he did not achieve corona discharge at all.

of the patent, not to the question of priority. That being the case, the issue cannot be raised in this proceeding.

The above memorandum contains the court's findings of fact and conclusions of law.

An order will be entered dismissing plaintiff's cross complaint.

UNITED STATES DISTRICT COURT.

* * (Caption—Civ. A. P-2445) * *

JUDGMENT.

This action came on for trial before the Court, Honorable Frederick O. Mercer, United States District Judge, presiding, and the issues having been duly tried and a decision having been duly rendered,

It is Ordered and Adjudged that Plaintiff's cross complaint is dismissed and judgment is entered in favor of Defendants Traver Investments, Inc. and E. I. DuPont de Nemours & Company, and against Plaintiff Union Carbide Corporation.

Dated at Peoria, Illinois, this 28th day of January, 1965.

WILLIAM J. LITTELL,
Clerk of Court.